

Tatsuya FUJII, Application No. 10/552,688  
Page 13

Dkt. 2271/75306

**Amendments to the Drawings**

The replacement sheets of drawings attached hereto as **Exhibit A** include changes to, and replace, Figures 1-8 of the original sheets of drawings. Figures 1-8 are now labeled as prior art.

Attachment: replacement sheets of drawings for Figures 1-8

Tatsuya FUJII, Application No. 10/552,688  
Page 14

Dkt. 2271/75306

REMARKS

Claims 1-29 were pending, with claims 13-29 having been withdrawn by the Patent Office from examination. By this Amendment, claims 1-2, 6 and 9-12 have been amended to place the claims in better form for examination and to clarify the claimed subject matter, and new claims 30-34 have been added. Claims 1-12 and 30-34 would be pending upon entry of this Amendment, with claim 1 being the sole claim in independent form.

The drawings were objected to as having informalities. The specification was objected to as having informalities. Claims 1-8 were rejected under 35 U.S.C. §112, first paragraph, as purportedly failing to comply with the enablement requirement. Claims 1-8 were rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite.

In response, the application has been amended to address formal issues referenced in the Office Action.

Regarding "predetermined weight", such predetermined weight is R3/R1 in the exemplary embodiment corresponding to formula (1) in the specification (for example, R1 and R3 in Fig. 9).

Withdrawal of the objection to the drawings, the objection to the specification and the rejections under 35 U.S.C. §112 is respectfully requested.

Claims 1, 8 and 11 were rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over the description of related art section of the present application ("Background Art") in view of U.S. Patent No. 5,499,269 to Yoshino.

Applicant respectfully submits that the present application is allowable over the cited art, for at least the reason that the cited art does not disclose or suggest the aspects of the present application of converting the amplitude of each of a plurality of digital input signals into a

Tatsuya FUJII, Application No. 10/552,688  
Page 15

Dkt. 2271/75306

*weighted voltage in accordance with a predetermined weight*, generating a send signal by adding the weighted voltages converted from the plurality of digital input signals, and generating a plurality of digital output signals corresponding to the plurality of digital input signals, based on the send signal.

In the Background Art, various conventional methods have been proposed for transmitting a digital signal by serial communication. Figs. 4-5 (reproduced below) were cited in the Office Action, and illustrate how serial communication can be used for transmitting data by a single signal, in which the data is transmitted in serial manner. In particular, a signal such as SdA or SdB can either take a value of 0 or 1.

FIG.4



FIG.5



However, in such Background Art, *the amplitudes of the binary signals are NOT converted into a weighted voltage in accordance with a predetermined weight*. That is, if a binary signal such as SdA has a value of 0 volts at a certain time, then that signal is represented as 0 volts (in the form of either a signal level, as in Fig. 4, or a pulse width level, as in Fig. 5).

Tatsuya FUJII, Application No. 10/552,688  
Page 16

Dkt. 2271/75306

Similarly, if the value of the binary signal SdA is 1 volt at a certain time, then that signal is represented as 1 volt.

The Background Art simply does not disclose or suggest changing the amplitude of an entire signal such as SdA, by converting the signal into a weighted voltage in accordance with a predetermined weight.

Further, the Background Art does not disclose or suggest *generating a send signal by adding the weighted voltages converted from the plurality of digital input signals.*

While the Background Art mentions the process of multiplexing, which those skilled in the art would understand as selecting one of a plurality of input signals and outputting the single selected signal, applicant finds no teaching in the Background Art as to generate a send signal by *adding weighted voltages converted from a plurality of digital input signals.*

Similarly, the Background art also does not discuss using such a send signal *to generate a plurality of digital output signals equal to the plurality of digital input signals.*

Likewise, Yoshino, as understood by applicant, does not disclose or suggest the above-mentioned aspects of the present application of converting the amplitude of each of a plurality of digital input signals into a weighted voltage in accordance with a predetermined weight, generating a send signal by adding the weighted voltages converted from the plurality of digital input signals, and generating a plurality of digital output signals equal to the plurality of digital input signals, based on the send signal.

Applicant respectfully submits that the cited art, even when considered along with common sense or common knowledge to one skilled in the art, does not render unpatentable the above-mentioned aspects of the present application.

Accordingly, applicant respectfully submits that independent claim 1 and the claims

Tatsuya FUJII, Application No. 10/552,688  
Page 17

Dkt. 2271/75306

depending therefrom are allowable over the cited art.

In view of the remarks hereinabove, applicant submits that the application is now allowable, and earnestly solicits the allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to charge any required fees in connection with this amendment, and to credit any overpayment, to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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RJM

# EXHIBIT A

10

AMENDMENT

(Application No. 10/552,688)